

CANCER RESEARCH INSTITUTE
NEW ENGLAND DEACONESS HOSPITAL
194 PILGRIM ROAD
BOSTON 15, MASSACHUSETTS

January 10, 1956

Professor Joshua Lederberg
Department of Genetics
University of Wisconsin
Madison 6, Wisconsin

Dear Josh:

Accompanying this letter I am sending you a copy of a review of adaptive phenomena in animals analogous to the phenomenon of enzymatic adaptation in microorganisms, which is to be published later in the year by Physiological Reviews. It consists of a surprisingly large number of changed specific protein concentrations reported from 1897 through 1954, and produced by substrate administration and other operational treatments, including endocrine changes. It should establish the fact that there is considerable plasticity of the cellular metabolic machinery in animals, and that with these changes certain alterations of physiological function may be correlated. It also poses the problem, in all its complexity, of the mechanisms by which the amounts of the specific cell proteins are regulated.

I've assumed that changes occurring without histological change of cell type are all phenotypic changes. Our ignorance of the genetics of somatic animal cells is so great that this is almost safe. But the compilation is made, whatever the mechanism, and special thanks are due you for the numerous examples which you furnished.

Thanks also for sending me your reprints -- they are read and appreciated in the best tradition of the amateur.

Sincerely,


W. Eugene Knox, M.D.